

## Chapter 2

# Project Engage: Solutions for Recruiting, Retaining, and Reinforcing STEM Majors From Rural Areas

### ABSTRACT

*As the nation seeks to diversify the STEM workforce, looking toward the rural areas of the United States affords an opportunity to increase the flow of students into the STEM pipeline. However, rural students face many roadblocks on the way to STEM careers including poor educational attainment, lack of STEM experiences, few STEM role models, inadequate technology preparation, and low motivation to pursue STEM. This chapter explores those barriers and proposes Project Engage as an avenue for breaking down the barriers. The chapter identifies and explains the major components of Project Engage: strategic mentoring, STEM engagement activities, and guided career exploration. These combined components create a comprehensive framework for addressing the barriers imposed by the nature of growing up “rural.” Statistical data is presented that reveals an increase in recruitment of STEM majors as well as positive results of retention.*

## **INTRODUCTION**

Students from rural areas are often from high poverty areas and face multiple challenges as they seek postsecondary education. In order to capitalize on the number of rural students who are currently an underrepresented group in STEM, efforts must be employed to dismantle the barriers and provide a supportive educational environment during the undergraduate years. Project Engage is a Minority Science and Engineering Program (MSEIP) grant project funded by the U. S. Department of Education supporting the recruitment and retention of underrepresented groups, specifically minorities, into STEM. Project Engage utilizes three general components: strategic mentoring, STEM engagement, and guided career exploration, to encourage persistence in STEM. When combined, these components support a framework for improving STEM education overall, which will be explained in its entirety in Chapter 6. However, the purpose of this chapter is to provide an overview of Project Engage and these three components as they relate to addressing the needs of rural students pursuing education in STEM disciplines.

## **PROJECT ENGAGE OVERVIEW**

Project Engage is a program funded by the U.S. Department of Education MSEIP grant. This program assists “predominantly minority institutions in effecting long-range improvement in science and engineering education programs and increasing the flow of underrepresented ethnic minorities, particularly minority women, into science and engineering careers.” MSEIP provides four types of grants: 1) institutional project grants supporting the implementation of a comprehensive science improvement plan, which may include any combination of activities for improving the preparation of minority students for careers in science; 2) special project grants supporting activities that improve quality training in science and engineering at minority institutions or enhance the minority institutions’ general scientific research capabilities; 3) cooperative project grants assisting groups of nonprofit accredited colleges and universities to work together to conduct a science improvement program; and 4) design project grants assisting minority institutions that do not have their own appropriate resources or personnel to plan and develop long-range science improvement programs (U. S. Department of Education, 2017).

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